

SCIENCE & GOVERNMENT REPORT

24th Year of Publication

The Independent Bulletin of Science Policy

Volume XXIV, No. 19

P. O. Box 6226A, Washington, D. C. 20015

© December 1, 1994

Newt's a Big Space Fan, But Otherwise News is Sparse

Fears and hopes of the Republican takeover of Congress continue to stimulate the rumor mill in scientific circles as well as in other sectors of Washington. But there's no way of knowing how far the new majorities will try to go in cutting spending, taxes, and the federal establishment itself.

The great likelihood is that budget mayhem is on the way, and that research spending will suffer with others. Frail hopes hinge on the fact that the pledges of colossal cuts come from the House, with only faint echoes so far in the Senate.

Very little is for sure, beyond the ascendancy of Dole and Gingrich in their respective houses. There seem to be a few sure-shot certainties for Congressional committee chairmanships—but even there, some doubts are in order.

The chairmanship of the House Science, Space, and Technology Committee awaits the outcome of voting for House Majority Leader, for which Rep. Robert Walker, of Pennsylvania, senior Republican on the Science Committee, is a contender. If Walker loses, he almost surely will slide into the Science chairmanship, a post that's reported to be destined for an expanded jurisdiction. According to one of the more consistent reports, energy research will be sliced off from outgoing Chairman John Dingell's Energy and Commerce Committee, and relocated in the Science Committee.

In the Senate, Larry Pressler, of South Dakota, is said to be en route to the chairmanship of the Commerce, Science, and Transportation Committee, which roughly matches the House Science Committee in jurisdiction. Pressler, not noted for political energy or command of legislative detail, would succeed Ernest Hollings.

Senator Nancy Kassebaum, of Kansas, is reported to be in line to head the Labor and Human Resources Committee, the power base for outgoing Chairman Edward Kennedy. The Committee writes legislation for the Department of Health and Human Services, which includes most of the government's health research and service agencies. Lobbyists concerned with those agencies note that Kassebaum is not a wrecker.

Hopes hang on small threads in the science agencies. An NSF official tells SGR that he takes comfort from the fact that the Foundation was not on the wipe-out roster issued by House Republicans, but was merely listed for a reduction in growth. The space crowd is among the cheerier folks in town. The record shows that Gingrich is a gung-ho space enthusiast, according to an account in the December 5 *New Yorker*, which discusses his 1984 book, "Window of Opportunity."

"He is not merely a supporter of an expanding space program," the article on Gingrich states; "he is, he says in the book, for the employment of the handicapped on space stations, the better to take advantage of the no-gravity work environment."

"Baltimore Case" Heads for Major Battle on Misconduct

A major legal battle involving allegations of corrupt behavior in research was assured last week with the publication of 19 findings of scientific misconduct in a case that has roiled the scientific community for nearly a decade.

Ostensibly, the only thing at stake in this matter is the professional fate of the otherwise unremarkable target of the findings, Thereza Imanishi-Kari, an immunologist at Tufts University, accused of fabrications and falsifications in a paper she co-authored in *Cell* of April 25, 1986.

On the basis of the misconduct findings, the Office of Research Integrity (ORI), the so-called fraud shop for the Department of Health and Human Services (HHS), wants to banish Imanishi-Kari from federal funding for 10 years. A recipient of NIH grants, she plans to appeal, thus setting the

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In Brief

NSF has completed its own strategic plan, "NSF in a Changing World," 19 densely packed pages of high-vacuum verbiage, due out next month. Asked how the plan differs from current doctrine, NSF Director Neal Lane said it means that "NSF will support the discovery, integration, and dissemination of knowledge in service to society," adding that the plan "puts emphasis on science for national benefit." In practical terms, it looks like a shrewdly designed puff job to cool recurrent political demands to do something visibly useful. Tangible effects are likely to be negligible, especially with Barbara Mikulski, the badgering Senator from Maryland, out of the chairmanship of NSF's appropriations subcommittee.

And whatever happened to the strategic plan developed at NIH, amid much tantrum throwing and trauma, during the Bernadine Healy regime? When Healy left in mid-1993, the plan disappeared down a memory hole. It's never mentioned, and it's even difficult to find a copy.

A program to bring scientists from the former Soviet Union to the United States for collaboration with American hosts is being administered by the National Academy of Sciences, with funds provided by the US Agency for International Development—\$3000 for travel, \$1000 a month for living expenses. For information: 202/334-3680; fax 202/334-2614; Internet: OCEE@NAS.EDU

The prolific Office of Public and Consumer Affairs at the Department of Energy has installed an automated, 24-hour news-release system by fax, providing on request copies of DOE releases on education, tech transfer, energy research, radioactive waste, etc. DOE pays the transmission costs. For instructions: 202/586-0550.

... Inquiries by MIT, Tufts Cleared Imanishi-Kari

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stage for a courtroom-style public hearing, probably early next year, with a large cast of scientific luminaries potentially on the witness list.

Though Imanishi-Kari is the only one officially accused of any wrongdoing, the case has also produced allegations of coverups at MIT, where the disputed research was conducted, and at Tufts, which looked into the charges against Imanishi-Kari before hiring her in 1986.

Both universities cleared her, and in the process discounted skeptical inquiries about Imanishi-Kari's reported research findings raised by a postdoc in her lab, Margot O'Toole. O'Toole, whose doubts have been officially corroborated by the government's long-running investigations of the case, was labeled a troublemaker and could not land a suitable job in research for several years. In "whistle-blower" ranks, where she's a heroine, her experience is cited as evidence of a hypocritical, self-protecting network in the upper ranks of science.

The Imanishi-Kari case has already produced misfortune for one of the most celebrated figures in research, Nobel laureate David Baltimore. A co-author of the controversial *Cell* paper, Baltimore has not been accused of any misdeeds. But his staunch defense of Imanishi-Kari, especially at a raucous hearing chaired by Rep. John Dingell in 1989, attached his name to what has ever since been misnomered as "the Baltimore case."

As evidence piled up against Imanishi-Kari, Baltimore was so tainted by that identification that, under faculty pressure, he resigned the presidency of Rockefeller University in 1991, after a year in office. He's now back at MIT, where he and Imanishi-Kari, in separate laboratories, collaborated in 1984-85 on the *Cell* paper, which reported breakthrough findings concerning the immune response in transgenic mice. ORI concluded that Imanishi-Kari fabricated much of the data and, when confronted about the validity of her share of the co-authored paper, concocted even more to cover her tracks and also presented fabricated data in grant applications.

Defending her against these charges will be Joseph Onek, a Washington lawyer who has emerged as one of the superstars of scientific-misconduct representation, a vigorous growth sector for the legal profession.

Onek is also the lawyer for the renowned Robert C. Gallo, of the National Institutes of Health, who last year was deemed guilty of misconduct in AIDS research. The findings, however, were meekly withdrawn by the government after Onek challenged their validity and filed an appeal for his client.

Also on the line in the Imanishi-Kari case is the credibility and probably even the survival of the Office of Research Integrity. ORI has a record of botching the big ones, and has been rebuked for incompetence by the HHS Departmental Appeals Board, court of last resort in scientific misconduct cases involving NIH and other agencies of the Public Health

Service.

Much of the delay in completion of the Imanishi-Kari case is attributed to a do-or-die necessity at ORI to win this case, following ORI's ignominious withdrawal in the Gallo case. Covering 231 pages, the ORI report on Imanishi-Kari is extremely detailed, particularly in describing and explaining the underlying immunology research. The care devoted to this matter probably reflects ORI's past difficulties with the HHS Departmental Appeals Board, a lusterless bench of lawyers who are normally occupied by cases concerning gripes about Social Security.

Numbered among ORI's debacles was a precursor to the Gallo case, involving findings of misconduct against Mikulas Popovic, a virologist who worked for Gallo. ORI was sure of its case against Popovic, but the Appeals Board essentially laughed ORI out of court, saying its evidence was unconvincing and its legal case faulty. Claiming that it was thus confronted by new and more difficult standards for making a case of misconduct, ORI withdrew its misconduct findings against Gallo when he said he would appeal the findings.

While the case against Imanishi-Kari does not present an appealing picture of research in a high-pressure, big-league university lab, the bumbling, years-long nature of this investigation is no credit to the federal government. ORI, which inherited the case from an even more incompetent organization, the now-defunct Office of Scientific Integrity, offers explanations and excuses for the marathon nature of the proceedings. ORI even attributes some of the delay to stonewalling by Imanishi-Kari. Guilty or not, however, she has been the victim of a heartlessly prolonged investigation.

The case has been simmering since shortly after the publication of the *Cell* paper in 1986. Following questions raised by O'Toole, an inquiry at MIT concluded that the paper was flawed only by a minor error. The Tufts investigation found "no evidence of deliberate falsification" or "deliberate misrepresentation." As allegations of whitewash radiated from the Boston area to Bethesda, NIH's own self-appointed misconduct sleuths, Ned Feder and Walter Stewart, championed O'Toole's cause, and aroused the interest of Rep. Dingell's tireless pursuers of misdeeds at government

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Published by Science & Government Report, Inc., twice monthly, except once each in January, July, August, and September. Annual subscriptions: Institutions, \$455.00 (two years, \$780.00). Bulk and individual rates upon request. Editorial offices at 3736 Kanawha St. NW, Washington, DC 20015. Tel. (202) 244-4135. For subscription service: PO Box 6226A, Washington, DC 20015. Tel. 1-800-522-1970; in Washington, DC 785-5054. Reproduction without permission is prohibited. SGR is available on University Microfilms International. Claims for missing back issues will be filled without charge if made within six weeks of publication date. ISSN 0048-9581.

... First NIH Panel Reported Errors but No Fraud

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expense.

Having previously hit paydirt on Wall Street and in the defense industry, the Congressman figured why not a peek into the underside of science.

NIH, meanwhile, had decided to conduct its own inquiry. But this was in the early days of federal concern about misconduct in research, and few guidelines existed on how to proceed. In May 1988, NIH set up a three-member panel of outside scientists to look into what was already being referred to as the Baltimore case. A year later, the panel reported that the paper contained "significant errors of misstatement and omission, as well as lapses in scientific judgment and interlaboratory communication." But it also said that "no evidence of fraud, conscious misrepresentation, or manipulation of data was found."

With a recommendation for publication of a correction, it seemed as though the panel had brought the case to a clean conclusion. But then O'Toole, after looking over the data that Imanishi-Kari had provided for the investigation, pointed out a lack of supporting material for parts of the published paper. As the report issued last week by ORI puts it, "During this time, NIH became aware for the first time that Dr. Imanishi-Kari's notebook had not been compiled contemporaneously with the conduct of the reported experiments. Rather, it had been assembled specifically to respond to the challenges to the paper"—a method that then-NIH Director James B. Wyngaarden characterized as "unorthodox data handling practices."

Congressman Dingell heated the case with a hearing at which Baltimore, backed by indignant friends in the scientific community, scored a public-relations triumph by berating the irascible Chairman as an enemy of science. No matter that then-NIH Director Wyngaarden had previously said that if Baltimore had paid proper attention to O'Toole's doubts about the paper, NIH could have avoided a bitter and costly fight. The Imanishi-Kari case had progressed from a spat among scientists into a public spectacle, with many onlookers taking sides and regarding the opposing camp with disgust.

Dingell brought in forensic specialists from the Secret Service, who testified that parts of Imanishi-Kari's laboratory records were created years after the experiments reported in the *Cell* paper. NIH then reopened the investigation, assigning it to the newly established Office of Scientific Integrity (OSI), but, as the recent ORI report states, Imanishi-Kari refused to cooperate. Proceeding without her cooperation, the investigation plodded on until early 1991, when OSI issued a draft report with findings of scientific misconduct by Imanishi-Kari.

With Dingell's staff pushing for a criminal prosecution, the case was brought to the attention of the US Attorney in Baltimore, which has jurisdiction for Maryland-headquartered

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ORI Slams Imanishi-Kari

From the investigation report of the Office of Research Integrity concerning findings of scientific misconduct by Thereza Imanishi-Kari, of Tufts University, formerly at MIT, where the research in question was conducted.

Not only did she fabricate and falsify critical areas of the reported results, but in denying the original misconduct, she further compounded these violations by fabricating data that she claimed supported her initial findings. Finally, she further compounded the fabrications and falsifications by referencing them or reporting them in grant applications to NIH....

The US Secret Service conducted detailed analyses [of Imanishi-Kari's laboratory notebook], including examining the inks used, the types of paper in the book, and each of the pages for impressions of other pages ... to determine the order and approximate dates of the entries.

The results clearly showed that: the notebook was not composed contemporaneously with the reported experiments; numerous dates of entries were altered; and much of the primary experimental data contained in the notebook were not generated on the dates reported....

The new and exciting observation made in the *Cell* 45 paper as published was that the transgenic mice were producing antibodies from endogenous genes that were closely related to the idiotype transgene with which they had been injected.

The fabrications and falsifications, in effect, established data and experimental results that supported this central thesis. Had there been no fabrication and falsification, this conclusion could not have resulted. Honest reporting would have completely undermined the conclusion and jeopardized the publication of the paper.

Besides falsifying and fabricating her initial claims, Dr. Imanishi-Kari compounded her already serious misconduct by perpetuating it in a deliberate and calculated fashion. She persisted in maintaining the validity of her claims and repeatedly provided what she asserted were additional data that would prove the validity of these claims. These data were fabricated....

Without these findings, her experiments would not have been regarded as significant, and, most likely, would not have been accepted for publication. Furthermore, NIH funds would probably not have been awarded....

Finally, it is most significant that *all the authors with the exception of Dr. Imanishi-Kari* [original italics] have retracted the *Cell* 45 paper. Dr. Imanishi-Kari alone has persisted in claiming its validity.

Bedlam Erupts at National Institute of Mental Health

Clinical researchers associated with the National Institute of Mental Health are protesting what they perceive as NIMH's downgrading of patient-oriented studies in favor of laboratory-based research.

In appropriate snake-pit fashion, the NIMH community is seething with allegations of personal score-settling in the guise of objective priority-making and mandated staff reductions. On the other hand, it's widely held that NIMH is heavy with scientific deadwood and barren research that have long survived critical reviews, and that a big shakeout is overdue.

The charges of severe cutbacks in the clinical program are hotly disputed by the NIMH management. It was conceded, however, in a statement last month by Acting NIMH Director Rex W. Cowdry, that changes are being made and that "There are real differences of opinion about how to set priorities for NIMH research, and what those priorities should be." Cowdry's statement oscillated between assurances that clinical research remains strong at NIMH and warnings that nothing there should be regarded as eternal.

So far, NIMH is the most prominent source of dissent over conspicuously difficult times for clinical research at the National Institutes of Health, parent agency of NIMH. But across the board, the clinical community evidently feels it is disproportionately suffering in this period of little or no growth for biomedical research.

The decline of clinical research at NIH long preceded the arrival 13 months ago of NIH Director Harold Varmus, an MD who arouses concerns among some clinicians because he

Misconduct *(Continued from Page 3)*

tered NIH. The ORI report states that "because of this legal review, the scientific misconduct case was suspended until July 1992." When the US attorney finally got around to looking into this esoteric squabble among scientists, he concluded that he had more important problems to attend to in his crime- and drug-besotted jurisdiction.

In the meantime, OSI was torn apart by then-NIH Director Bernadine Healy, who reviled the place for news leaks, cozy relations with Dingell, and general incompetence. While Imanishi-Kari remained in a legal limbo, the case was turned over to the newly created Office of Research Integrity. And there it's been for the past two years, while ORI—badly bruised in the Popovic and Gallo cases—has heavily invested its staff resources in winning this big one. Poorly regarded in what has evolved as a community of lawyers, scientists, research administrators, and conference riders concerned with scientific misconduct, ORI is by no means assured of longevity. Under a Congressional directive, a Commission on Research Integrity, headed by Kenneth Ryan of Harvard Medical School, is studying the management of misconduct for the Secretary of Health and Human Services [SGR, November 15].

If the Imanishi-Kari case falls apart, ORI is likely to follow.—DSG

made his professional mark in basic research. The patient load at the Clinical Center on the Bethesda, Md., campus, is down to about half of original capacity because of aging, neglected facilities and tight budgets.

Plans are in the works to replace the Clinical Center with a new, smaller building, but the schedule is drawn out and uncertain. The reality of the moment is that the world's greatest clinical research facility is a dump.

Varmus has depicted retrenchment as essential for maintaining inhouse scientific quality in the face of stagnant budgets and political demands for a smaller federal establishment. Nonetheless, angry words have been directed at both Varmus and the designated triggerman at NIMH, Michael Brownstein, Acting Director of the NIMH Intramural Research Program.

Echoing NIMH's inhouse mutterings, recriminations went public in a statement released in mid-October by the Board of Directors of the National Alliance for the Mentally Ill (NAMI), which claims a nationwide membership of 140,000. The NAMI statement accused NIMH of "attacking and curtailing clinical research on schizophrenia and bipolar disorder," adding that the NIMH intramural leadership lacked "a vision for the future of our science." Two weeks later, NAMI joined with the American Psychiatric Association (APA) and the Public Citizen Health Research Group, an arm of the Nader empire, in a lengthier denunciation of NIMH management and strategy.

The trio said that over the past two years, clinical research at NIMH on schizophrenia and bipolar disorder had suffered a 40 percent reduction in research personnel and similar cuts in research beds, with additional reductions to come following a review of the NIMH Intramural Research Program.

The APA, Washington-based trade association of some 38,000 psychiatrists, chimed in with a statement of its own contesting the validity of the review. According to Melvin Sabshin, Medical Director of the normally timid APA, NIMH "is not conducting that review in an appropriately balanced, fair, open, and justifiable manner."

In a statement issued by NAMI, E. Fuller Torrey, an MD clinical researcher and political campaigner on mental-health issues, said, "Basic science without associated clinical research is nothing more than a crapshoot, with only a random chance that the results will be relevant to any one disease, or to any disease at all." By name, Torrey accused Varmus and Brownstein of favoring "research confined to the inside of a cell."

The statement of the three organizations also called for full deployment of the political devices that health lobbies have traditionally relied upon to influence federal spending—Congressional hearings, a study by the Institute of Medicine, and a specially appointed committee to advise the Department of Health and Human Services. Pending completion of these maneuvers, the three organizations recom-
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News Notes: Physics Jobs Down, Industry R&D Up

A gloomy picture of the job market for physicists at all degree levels is presented in a new "Graduate Student Packet" prepared by the American Physical Society and the American Institute of Physics.

Describing the job market as "very poor," but possibly bottomed out for recent bachelor-degree recipients, an introductory section reports a 12 percent unemployment rate for the PhD class of 1993, up from 5 percent a year earlier.

The joblessness is attributed to an annual PhD production rate of about 1350 and a job market with about 800 openings. "Many of the 800 openings are not going to young PhDs," the report states, "but rather are being filled by experienced physicists. Some of the latter lost their positions when industry downsized during the early 1990s; others emigrated from other countries, including Western and Eastern Europe."

The packet is comprised of data from APS-AIP surveys, government agencies, and professional organizations.

Copies are available without charge from: APS Membership Department, One Physics Eclipse, College Park, Md. 20740-3844; tel. 301/209-3280; fax 201/209-0867; e-mail: membership@aps.org

A more cheerful assessment about research comes from the Industrial Research Institute, a Washington-based association whose 262 member firms perform the great majority of industrial R&D in the US. IRI says that spending and hiring plans are looking up for the first time since 1991.

Based on responses from R&D managers at 144 compa-

nies, the IRI reports that about half expect their R&D spending in 1995 will remain unchanged, while 27 percent anticipate increases. That latter figure is up from 18 percent a year earlier. Twenty percent said "they will increase hiring of new graduates, compared to 5 percent the year before."

Copies of the report, *Annual R&D Trends Forecast*, is available without charge from: Industrial Research Institute, 1550 M St. NW, Suite 1100, Washington, DC 20005-1708; attn. Kristen; tel. 202/876-6350; fax 202/872-6356.

The National Institute of Standards and Technology reports that it entered into 133 Cooperative Research and Development Agreements with industrial firms in the fiscal year that ended September 30, bringing NIST's CRADA total to 506 since the contract mechanism was established in 1988. During the past fiscal year, 72 CRADAs expired, leaving 342 active on the books. For information about CRADAs: Bruce Mattson, B256 Physics Building, NIST, Gaithersburg, Md. 20899-0001; tel. 301/975-3084.

Raymond E. Bye Jr., who left NSF last summer after a decade as head of the Office of Legislative and Public Affairs, is now Associate Vice President for Research at Florida State University. Joel Widder, Director of Legislative Affairs at NSF, is serving as Acting Director of the Office.

Betty Vetter, head of the Washington-based Commission on Professionals in Science and Technology for 31 years, died November 18 of lung cancer.

Mental Health

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mended "Immediate cessation on all reductions and personnel actions within the [NIMH] Intramural Research program."

With incoming fire on clinical research intensifying, Varmus focused almost exclusively on clinical research in his keynote address October 30 in Boston to the annual meeting of the Association of American Medical Colleges (AAMC).

Clinical research, he acknowledged, is experiencing difficulties, but not as a result of indifference at NIH. Rather, he said, the problems arise from the steep costs of clinical studies, insurers' resistance to higher patient fees in academic health centers, and a political climate that dictates an essentially standstill budget for most federal agencies, including NIH. Clinical research, Varmus continued, is simply sharing the scarcity that afflicts all research at NIH, but is not bearing any undue burden—except for a growing shortage of investigators.

The reasons for the shortage, Varmus said, are not understood, but he speculated about inadequate recruitment efforts and a research atmosphere in medical schools that

encourages students "to choose molecules over medicine."

To overcome these, he said, MD and PhD programs should encourage interest in clinical research. "Too few schools and training programs offer appropriate course work to define the components of a career in patient-oriented research."

"We need to offer," Varmus suggested, "new kinds of courses and electives for medical students and for graduate students with an interest in clinical problems and for post-graduates. We need to include course options in epidemiology, statistics, computer science, patient's safety, grant-writing, legal and regulatory issues, as well as courses that are already fairly common in the design of clinical trials."

More to the point about the current woes of clinical research, Varmus took to gloomy forecasting, warning that "any major increase in NIH funding is extremely unlikely before the end of the century"—perhaps the most extended prophecy of lean years yet heard in biomedical circles.

The well-dug-in contingents at NIH have heretofore been able to enlist the support of old friends on Capitol Hill whenever threatened by change, whether wise or ill-advised. But with the change of party control in Congress, the old ties to power and influence are gone, and the outlines of the new power structure are far from clear.

Cancer Institute Criticized for Mammography Shift

As the premier government agency for dealing with the most feared disease, the National Cancer Institute (NCI) should realize that the average citizen is not certified in oncology or statistics.

Clarity and explanatory skill are required when professionals address lay people about cancer. But these qualities have been scarce in NCI's declarations concerning one of the most complex issues in cancer diagnosis, mammography for breast cancer. In this matter, NCI has made the worst of a difficult situation.

The ingredients behind this sad performance are detailed in a recent Congressional report that was eclipsed by news of the election campaign and the impending Republican take-over of Congress.

Misused Science: The National Cancer Institute's Elimination of Mammography Guidelines for Women in Their Forties, 18 pp., no charge, a limited number of copies available from: US House of Representatives, Committee on Government Operations, Subcommittee on Human Resources and Intergovernmental Relations, Rayburn Building, B-372, Washington, DC 20515; tel. 202/225-2548; fax 202/225-2382.

But the story of NCI and breast-cancer advice should not be lost. As recounted by the House Committee on Government Operations, it goes like this:

In December 1993, NCI issued a statement saying that for women ages 50 and over, mammography and clinical breast cancer examination every year or two "can reduce breast cancer mortality by about one-third." There was nothing new or ambiguous in that simple message.

But then the statement proceeded: "Experts do not agree on the role of routine screening mammography for women ages 40 to 49. To date, randomized clinical trials have not shown a statistically significant reduction in mortality for women under the age of 50." NCI Director Sam Broder testified to the Government Operations Committee that the statement concerning ages 40-49 was derived from continuing studies of data in clinical trials.

Carefully drafted, the statement didn't come out for or against mammography for women 40 to 49. Rather, it said, in effect, that we experts have found no evidence that the use of mammography will prolong life for this age group, in which almost as much breast cancer occurs as in women over 50. The major difference in diagnoses arises from denser tissue in the younger women, which reduces the efficacy of mammography.

Strangely omitted from NCI's medical communique was a bit of relevant history: In 1987, NCI formulated a guideline endorsing mammography for women ages 40-49. A dozen other health organizations, including the American Cancer Society, took that position, and from 1989 through 1993, mammography for ages 40-49 was gospel in the cancer

community. For virtually all the other cancer organizations, it still is, despite NCI's turnaround last December. NCI's senior advisory group, the National Cancer Advisory Board, opposed the change. Nonetheless, NCI's senior management went ahead with it.

Without acknowledging that it had changed its position, NCI described the statement embodying its change of position as "a successor to a 'working guideline' formulation drafted in 1987."

The NCI statement didn't say so, but mass mammography is expensive, carries a slight risk of radiation damage for some patients, and can produce false alarms. Given the absence of data showing benefits, NCI felt duty bound to reconsider its position, and that's what led to the December 1993 statement reporting no evidence of reduction in mortality from mammography for patients 40-49.

Patients as well as doctors were, of course, puzzled and confused by NCI's cold statistical findings, but the facts couldn't be disputed: studies had failed to detect any life-saving value of mammography for women 40-49.

But how reliable were the studies? The House Committee report notes that several of NCI's own senior scientists disputed the quality of the studies and advised against changing NCI's position on mammography. One of the scientists, Charles Smart, former branch chief of the NCI Early Detection Unit, complained that the workshop that led to the revised position was "stacked." Another described it as "loaded."

The Committee report quoted numerous criticisms of a recent Canadian study that reinforced previous doubts about the value of mammography for women 40-49. The study, it noted, had been faulted for poor screening of patients, inadequate training, and statistical deficiencies. Of the other studies examined by NCI, the report continued, none was designed to test screening in the 40-49 age group.

The Congressional report points out that at a meeting of the International Union Against Breast Cancer in 1993, "NCI joined representatives of the international scientific community in unanimous agreement that these trials had insufficient statistical power."

Obviously startled and concerned by the medical and political reaction to its ham-handed performance, NCI is now considering a conference to reevaluate the available scientific wisdom on mammography for women ages 40-49. To assure an appearance of purity, the Board of Scientific Counselors of NCI's Division of Cancer Prevention and Control recommended a transfer of funds for a consensus conference to be conducted by the Agency for Health Care Policy and Research.

The first round of experts may indeed have been right about the worthlessness of mammography for this group, though the available evidence is skimpy and disputed. But for pure ineptitude in addressing the public on a fearsome subject, NCI's performance would be hard to beat.

In Print

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From the MIT Press:

The Fragile Contract: University Science and the Federal Government (244 pp., paperback, \$17.95; hardcover, \$37.50), 10 papers from a 1991-92 workshop at MIT arising from the eternally recycled theme that relations between Washington and academic science have gotten off the track, or as an introductory note states, "A palpable malaise has overtaken the relationship between government and science." The reality, of course, is that the relationship was never as congenial as the nostalgists say it was, and currently, it's not as sour as the doomsayers contend. Nonetheless, the handwringing persists. Contributors include: David Hamburg, President, the Carnegie Corporation, NY; Charles Vest, President, MIT; Gerald Holton, Professor of Physics, Harvard; Daryl Chubin, NSF; Patricia Woolf, Princeton University, and Dorothy Nelkin, New York University. Editors are David Gunston, Rutgers University, and Kenneth Keniston, MIT.

Order through bookshops or directly from: MIT Press, 55 Hayward St., Cambridge, Mass. 02142; tel. 617/625-8569; e-mail: <mitpressorders@mit.edu>.

From the General Accounting Office (GAO), no charge:

Breast Conservation Versus Mastectomy: Patient Survival in Day-to-Day Medical Practice and in Randomized Studies (GAO/PMED-95-9; 48 pp.), concludes that "community medical practice" and specialized treatment centers produce nearly identical survival outcomes in breast-conservation therapy, defined as "including lumpectomy, nodal dissection, and radiation." The GAO analysis was based on "medical practice" cases diagnosed from 1983-85 and randomized studies at centers from 1972-89. For the medical-practice patients, the adjusted 5-year survival rates were 86.3 percent for breast conservation and 86.9 for mastectomy; for patients in multicenter randomized studies, the comparable figures were 88 percent in both categories. "Thus, on average," the report states, "for breast cancer patients of physicians in regular medical practice who are similar to patients in randomized studies, there appears to be no appreciable risk associated with selecting breast-conservation therapy rather than mastectomy."

Telecommunications: Status of Research on the Safety of Cellular Telephones (GAO/RCED-95-32; 40 pp.), says that following unverified reports of health hazards from cellular phones, some research studies have been initiated by industrial groups and federal agencies. The report describes the federal role as "limited," with only the National Cancer Institute planning "research that specifically focuses on portable cellular telephone use." Regarding studies sponsored by the Cellular Telephone Industry Association, the GAO says that direct funding by the Association raises questions about "independence and objectivity." A larger federal role in planning the industry-backed research could add to its credibility, the GAO concludes. At this point, the

report states, there's no scientific basis for regulatory restrictions on cellular phones.

Order from: USGAO, PO Box 6015, Gaithersburg, Md. 20884-6015; tel. 202/512-6000; fax 301/258-4066. (For a fax list of GAO reports issued over the preceding 30 days, telephone by touchtone for instructions: 301/258-4097.)

From the Centers for Disease Control and Prevention:

Surveillance for Selected Tobacco-Use Behaviors—United States, 1990-1994 (43 pp., no charge), a CDC surveillance summary, with tables and text tracking cigarette and other tobacco consumption, year by year. For cigarettes, consumption peaked at 640 billion in 1981, and is estimated at 480 billion this year. Per capita, over 18 years of age, consumption fell from 4345 in 1963 to 2493 this year. The report, derived from the CDC's *Morbidity and Mortality Weekly Report* and other sources, lists numerous other CDC surveillance summaries.

Order from: Centers for Disease Control and Prevention, Office on Smoking and Health, 4770 Buford Highway NE (K-50), Atlanta, Georgia 30341; tel. 404/488-5705.

From the Ballistic Missile Defense Organization (BMDO):

The Update (12 pp., no charge), quarterly newsletter from the successor to the Strategic Defense Initiative ("Star Wars"), touting BMDO technologies for commercial purposes, or, as the newsletter puts it, "Linking American Businesses to Ballistic Missile Defense Technology." Various technologies are briefly described, with names and telephone numbers provided for getting more information.

Order from: BMD Technology Applications Update, National Technology Transfer Center, Washington Operations, 2121 Eisenhower Ave., Suite 400, Alexandria, Va. 22314; tel. 703/518-8800, ext. 500; fax 703/518-8986.

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In Print

Official reports and other publications of special interest to the research community

(Copies of publications listed here are available from the indicated sources—not from SGR)

From the Organization for Economic Cooperation and Development:

Science and Technology Policy Review and Outlook 1994 (314 pp., \$46), annual report on expenditures, policies, plans, etc. for research and related activities in the 25-nation OECD, Paris-based association of industrialized countries. There are also sections on the fast-growing Asian economies and developments in Central Europe and the Russian Federation. And there's a review of discussions sponsored by OECD on international management of scientific mega-projects.

Science, Technology and Innovation Policies, Federation of Russia (256 pp., \$35), reports on efforts to salvage and sustain the immense research establishment left behind in the collapse of the Soviet Union. Topics include the current state of R&D, employment, sources of financial support, international collaboration, and the transition from military to civilian programs. This publication expands on a briefer OECD evaluation issued earlier this year.

Order from: OECD Publications and Information Center, 2001 L St. NW, Suite 700, Washington, DC 20036-4910; tel. 202/785-6323; fax 785-0350. OECD publications are also available from booksellers and OECD offices in many major cities around the world.

From the National Institutes of Health:

International Frontiers in Biomedical Research: A Long-Range Plan for the Fogarty International Center [FIC] (48 pp., no charge), a blueprint for NIH's own foreign office, established in 1968 to promote international activities. Listed among areas of special interest: disease and environmental problems abroad that can affect US citizens, and collaboration with newly developed centers of scientific strength in other nations. Referring to HIV as only one among several viruses linked to "rapid ecological and social change," the report says FIC "will explore an International Research and Training Initiative on Emerging Infectious Diseases." And it refers to providing new fellowships for American pre- and postdocs to "expand their intellectual and cultural horizons," describing these awards "as the biomedical research equivalent of leadership awards supported under the Fulbright, Marshall and Rhodes endowments." Including \$23 million in the Fogarty Center budget, NIH spends about \$175 million a year for research grants abroad, fellowships for Americans and visiting foreigners, and other international activities. Today's fiscal prospects for new ventures are not discussed in the report.

Order from: National Institutes of Health, Fogarty International Center, Office of Public Affairs, Building 31, Room R-B2C08, Bethesda, Md. 20892-2220; tel. 301/496-2075; fax 301/480-3414.

From the National Academy of Sciences (NAS):

Modernizing the US Census (460 pp., \$45, plus \$4 for shipping), a study assigned to the NAS by Congress in 1991, says the decennial census can be carried out with greater accuracy and lower cost by employing statistical sampling as the follow-up step to traditional attempts at comprehensive head count, rather than repeatedly going back to search for all the real and assumed missing. As the basis for allotting Congressional seats to the states, and many federal assistance programs, the counts are of intense political interest. But there's evidence, the report says, that increasing numbers either dodge the census taker or are inadvertently missed. Because of the advantage of bigger numbers, it notes, the Census Bureau is subject to "politically powerful demand for accurate population counts." The price of the chase has sharply risen, the report states, calculating that, in real terms, census costs increased over ten fold between 1970 and 1990. The report was prepared by an Academy panel chaired by Charles L. Shultz, of the Brookings Institution; Barry Edmonston of the NAS staff was Study Director.

Order from: National Academy Press, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 1-800/624-6242; in the Washington, DC, area: 202/334-3313.

From the National Science Foundation Directorate for Education and Human Resources:

Foundation for the Future: The Systemic Cornerstone (NSF 94-121; 32 pp., no charge), presents brief reports on NSF's Statewide Systemic Initiatives program, now running in 24 states and Puerto Rico, designed to push science and math education reform on a wholesale basis, rather than through piecemeal efforts. In slick format, and more of a sales brochure than an analytical account, the report does convey a sense of progress out there.

Order from: National Science Foundation, Publication Section, Arlington, Va. 22230; tel. 703/306-1130; fax 703/644-4278.

Publications From the National Institute of Mental Health (23 pp., no charge), lists recent publications, for the general public and for professionals, including conference proceedings, budget documents, consensus statements, and advisory committee reports.

Order from: Information Resources and Inquiries Branch, National Institute of Mental Health, 5600 Fishers Lane, Room 7C-02, Rockville, Md. 20857; tel. 301/443-4513; fax 301/443-0008.

From the American Chemical Society:

Industry's Future: Changing Patterns of Industrial Research (369 pp., \$24.95), a sophisticated analysis of the big shifts taking place in industrial research, by Herbert Fusfeld, of the School of Management, Rensselaer Polytechnic, and former Director of Research, Kennecott Copper.

Order from: American Chemical Society, Distribution Office, Dept. 225, 1155 16th St. NW, Washington, DC 20036; tel. 1-800/227-5558; fax 202/872-6067.

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